

Chicken pox

Introduction

Chicken pox is an infection caused by the varicella-zoster virus, one of the herpes viruses. Other herpes viruses include herpes simplex, that produces cold sores, and the Epstein-Barr virus that causes glandular fever.

It gets its name from the Latin word “cicer”, meaning chick peas because the spots were thought to look like chick peas on the skin. Like other herpes viruses, after the symptoms caused by the varicella-zoster virus have cleared up, the virus lies dormant in the body, but capable of reactivation. “Varicella” refers to its capacity to cause chicken pox and “zoster” to the reactivated form that causes shingles in later life.

Most children catch chicken pox in the pre-school or early school years. It is most common in winter and early spring, with widespread outbreaks most years. Only about 10% of people reach adult life without having been infected. The time between catching the infection and the appearance of the rash, (the incubation period) is usually about two weeks.

Symptoms

The rash, which is commonly the first sign of infection in children passes through four stages, from reddish spots flush with the skin surface, to raised papules, to small blisters filled with clear fluid (the vesicles), and, lastly, to pustules which crust over and heal. But the first thing most parents and children usually notice is an itchy rash consisting of multiple small blisters. Over the first few days, new crops of these vesicles appear, especially on the chest, back and face. Vesicles in the mouth, on the eye, and around the genital area and anus can be painful. Older children and adults are more likely to have a fever, headache, or muscle pains before rash breaks out. Generally, chicken pox caught in childhood is a milder illness than that caught as an adult.

How is it caught?

Chicken pox is very infectious. A child who has not yet had it before, and who comes into contact with an infected person, will almost certainly catch it. Children with chicken pox are infectious from about two days before to six days after the appearance of the rash, by which time the last crop of blisters should have crusted over.

The virus is spread either by direct contact with a person with active chicken pox or shingles, or by indirect contact with clothes or other articles infected with vesicle fluid, saliva, nasal discharge etc, or by airborne spread of small droplets of infected mucous or vesicle fluid.

To prevent further spread of chicken pox children should be kept off school for six to seven days until all the blisters have crusted over. Shingles cannot be caught from chicken pox.

Complications

Chicken pox is a miserable illness but is almost always harmless. Complications can, however, occur. The most common is a bacterial infection of the blisters. This should be treated promptly with antibiotics. Occasionally there is bleeding into the blisters due to the virus interfering with blood clotting mechanisms. This is short-lasting and easily treated. In the recovery phase, some children may become clumsy and unable to walk properly. This is due to inflammation in a specific part of the brain. Although alarming, the symptoms will settle as the rash disappears. No treatment is needed and recovery will be complete. The varicella virus itself can cause a severe pneumonia. This can become life-threatening when complicated by additional bacterial infection but usually only occurs in adults.

There is about a two per cent risk of the varicella-zoster virus affecting the foetus if chicken pox is caught in early pregnancy. The greatest risk appears to be between the 13th and 20th week. In such an event the doctor will fully discuss the risks and how to determine if the baby has been harmed. If the mother has the first signs of the rash in the few days before or after delivery, the baby is at risk of developing severe chicken pox. This risk can be minimised by injecting the baby with varicella-zoster immunoglobulin. This is prepared from blood donors who have had chicken pox and whose blood thus contains high levels of antibody against the virus. Chicken pox in the second half of pregnancy, but before the last week, carries no risk to the baby.

Other groups at risk of severe complications from chicken pox are those with an impaired immune system. This includes patients receiving therapy for cancer and those on oral corticosteroid treatment (for example, people with severe asthma). If they have not had chicken pox before, these people must see their doctor immediately after any contact with the infection for appropriate treatment.

Chicken pox does not strike twice, except in very rare and unusual cases. One infection gives lifelong immunity.

Treatment

Routine treatment for chicken pox aims to relieve the symptoms, as we know that it is generally a benign illness. The itchiness and irritation can be reduced by keeping the skin cool with light clothing and tepid baths or sponging. Calamine lotion applied to the spots, or antihistamine tablets may also help - ask your pharmacist for advice. Paracetamol or ibuprofen can be taken if the lesions are painful and will lower fever. Aspirin is generally not suitable for children under 12. It is especially unsuitable for children with chicken pox because the combination of chicken pox and aspirin can damage the liver. Although it can be difficult to resist, avoiding scratching spots as it can lead to scarring.

Specific antiviral treatment is available but only used in special circumstances, for example, for children being treated for leu-

kaemia or other cancers.

The fever should settle within three to four days and the rash should then be showing signs of healing. New crops of vesicles are noticeably smaller and don't develop fully. If the fever persists, or the rash continues to spread significantly, or if there is a general reddening of the skin or some spots become angry and weeping, suggesting secondary infection, then see your doctor.

Prevention

A varicella vaccine is available and is widely used in the USA. It is only used in the UK immunisation of children with leukaemia who have not had chicken pox before.

References

Skull SA, Wang EEL. Varicella vaccination - a critical review. Arch Dis Child 2001;85:83-90

Rice P. Near fatal cp during prednisolone treatment. BMJ 1994;209:1069-70

Enders G et al. Consequence of varicella and herpes zoster in pregnancy. Lancet 1994;343:1547-50

Further information

Centers for Disease Control and Prevention

<http://www.cdc.gov/nip/diseases/varicella/>

World Health Organization

http://www.who.int/health_topics/chickenpox/en/

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